SAFETY PRECAUTIONS

SERVICE WARNING

Only qualified service technicians who are familiar with safety checks and guidelines should perform service work. Before replacing parts, disconnect power source to protect electrostatically sensitive parts. Do not attempt to modify any circuit unless so recommended by the manufacturer. When servicing the receiver, use an isolation transformer between the line cord and power receptacle.

SERVICING THE HIGH VOLTAGE AND CRT

Use EXTREME CAUTION when servicing the high voltage circuits. To discharge static high voltage, connect a 10K ohms resistor in series with a test lead between the receiver ground and CRT anode lead. DO NOT lift the CRT by the neck. Always wear shatterproof goggles when handling the CRT to protect eyes in case of implosion.

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

Be aware of the instructions and procedures covering X-ray radiation. In solid-state receivers and monitors, the CRT is the only potential source of X-rays. Keep an accurate high voltage meter available at all times. Check meter calibration periodically. Whenever servicing a receiver, check the high voltage at various brightness levels to be sure it is regulating properly. Keep high voltage at rated value, NO HIGHER. Excessive high voltage may cause X-ray radiation or failure of associated components. DO NOT depend on protection circuits to keep voltage at rated value. When troubleshooting a receiver with excessive high voltage, avoid close contact with the CRT. DO NOT operate the receiver longer than necessary. To locate the cause of excessive high voltage, use a variable AC transformer to regulate voltage. In present receivers, many electrical and mechanical components have safety related characteristics which are not detectable by visual inspection. Such components are identified by a # on both the schematic and the parts list. For SAFETY, use only equivalent replacement parts when replacing these components.

GENERAL GUIDELINES

Perform a final SAFETY CHECK before returning receiver to customer. Check repaired area for poorly soldered connections, and check entire circuit board for solder splashes. Check board wiring for pinched wires or wires contacting any high wattage resistors. Check that all control knobs, shields, covers, grounds, and mounting hardware have been replaced. Be sure to replace all insulators and restore proper lead dress.

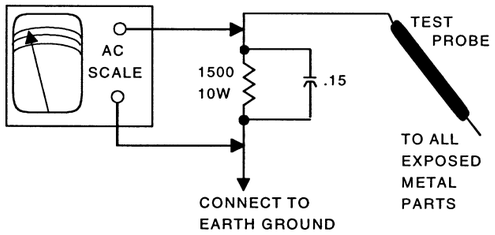
SAFETY CHECKS — FIRE AND SHOCK HAZARD

Cold Leakage Checks for Receivers with Isolated Ground

Unplug the AC cord, connect a jumper across the plug prongs, and turn the power switch on (if applicable). Use an ohmmeter to measure the resistance between the jumped AC plug and any exposed metal cabinet parts such as antenna screw heads, control shafts, or handle brackets. Exposed metal parts with a return path should measure between 1M ohms and 5.2M ohms. Parts without a return path must measure infinity.

Hot Leakage Current Check

Plug the AC cord directly into an AC outlet. DO NOT use an isolation transformer. Use a 1500 ohms, 10W resistor in parallel with a .15µF capacitor to connect between any exposed metal parts on the receiver and a good earth ground. (See figure below.) Use an AC voltmeter with at least 5000 ohms per volt sensitivity to measure the voltage across the resistor. Check all exposed metal parts and measure voltage at each point. Voltage measurements should not exceed .75VAC, 500µA. Any value exceeding this limit constitutes a potential shock hazard and must be corrected. If the AC plug is not polarized, reverse the AC plug and repeat exposed metal part voltage measurement at each point.



HIGH VOLTAGE SHUTDOWN TEST

Momentarily short BC14901 at base of Q14901 to ground. The receiver should lose raster and sound. If receiver does not lose raster and sound, the shutdown circuit should be repaired. To resume normal operation, remove AC power for approximately 30 seconds and then turn the receiver on.

The listing of any available replacement part herein in no case constitutes a recommendation, warranty, or guarantee by SAMS Technical Publishing as to the quality and suitability of such replacement part. The numbers of the listed parts have been compiled from information furnished to SAMS Technical Publishing by the manufacturers of the specific type of replacement part listed.

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PHOTOFACT® *Technical Service Data*

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For Supplier Address, See PHOTOFACT Annual Index

GE

Model 27GT630TX51 (Chassis CTC203AA5)

Representative Model

Essential coverage for servicing a television receiver...

- **Schematics**
- **Component locations**
- **Parts list**

Coverage includes these additional models and chassis:

Models	Chassis
27GT630TX51	CTC203AA9
27GT630YX51	CTC203AA5

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SEPTEMBER 2002 SET 4631

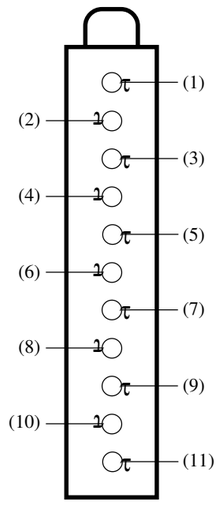
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
AGC (1)	2.4V	2.3V	2.8V
NC (2)	1.3V	4.2V	5.5V
+5V (3)	5.2V	5.2V	5.2V
CLK (4)	5.0V	5.0V	5.0V
DATA (5)	5.0V	5.0V	5.0V
+5V (6)	5.2V	5.2V	5.2V
+5V (7)	5.2V	5.2V	5.2V
+32V (9)	34.2V	34.2V	34.2V
IF (11)	0V	0V	0V

NOTE: VHF Low Band voltages taken on channel 2.
VHF High Band voltages taken on channel 7.
UHF Band voltages taken on channel 14

TUNER TERMINAL GUIDE



Important Parts Information

- The parts listed here are those not usually available from a well-stocked supply cabinet or bin.
- Where items may be replaced with equivalent parts, several alternates are shown from participating vendors.
- On the parts lists, safety items are marked with a **#** to remind you that only exact replacements are recommended for these items.
- When ordering parts, state the model number, part number, and description.

Obtaining Parts

Many of these parts are available from your local Sams authorized distributor or the manufacturer of the equipment. Call Sams for the name of your nearest distributor:

800-428-7267

Or consult the Sams *Annual Index* for the address of the original equipment manufacturer.

Participating Vendors

Information on test equipment and replacement parts is listed in these pages for the following participating vendors. Consult the Sams *Annual Index* for their current address.

- NTE Electronics, Inc. (NTE)
- Sencore, Inc.

SCHEMATIC COMPONENT LOCATION GUIDE

C11403	C5	C12718	C11	C14701	E20	CR11602	C45	Q13501	D32	R11705	D46	R13134	A35	R14305	E6	R26445	B32	U14150	C27
C11450	B46	C12801	C9	C14702	D19	CR11603	C45	Q13503	D32	R11706	E46	R13135	A35	R14306	E6	R26446	B32	U14501	D7
C11451	B46	C12802	B8	C14703	D19	CR12301	B5	Q14101	B20	R11707	E47	R13136	B35	R14309	E5	R26447	D30	U26401	C32
C11453	C51	C12803	C10	C14704	D19	CR12702	E4	Q14102	B19	R11708	D45	R13139	A36	R14310	E4	R26448	C30	U26401	C41
C11454	C51	C12805	B8	C14706	E20	CR13501	E32	Q14103	B19	R11709	E45	R13142	A35	R14318	E1	R26449	C30	U26402	A39
C11455	C51	C12806	C9	C14710	E3	CR14101	B18	Q14104	A25	R11909	C51	R13143	D32	R14319	E1	R26450	C30	U26403	A37
C11456	C51	C12807	C9	C14711	E21	CR14102	B19	Q14105	A25	R11910	A50	R13144	E35	R14320	D2	R26451	C30	U26404	E26
C11501	D48	C13102	A10	C14901	E3	CR14103	C19	Q14106	D20	R11911	A50	R13165	A32	R14321	D4	R26452	C29	U26903	B6
C11502	D48	C13114	D29	C14902	E2	CR14104	C19	Q14107	D21	R11912	B50	R13166	B35	R14322	E4	R26453	A41	V101	C16
C11503	D51	C13119	B36	C14903	D3	CR14105	C19	Q14115	B27	R11913	B50	R13169	C35	R14323	D4	R26454	A41	Y12801	B10
C11504	D51	C13141	D33	C14904	D3	CR14106	A22	Q14201	B17	R11915	B49	R13176	B35	R14324	D1	R26455	E31	Y14101	D2
C11506	D46	C13163	C24	C15101	D15	CR14107	B23	Q14301	E6	R11917	C49	R13180	B35	R14326	D1	R26456	A41	Y26401	C33
C11507	E46	C13201	A29	C17416	B35	CR14108	B21	Q14302	E5	R11918	C49	R13181	B35	R14327	D1	R26457	A41		
C11601	A46	C13202	A29	C17417	C35	CR14109	C21	Q14401	E7	R11919	C49	R13182	B34	R14328	D5	R26458	C32		
C11602	C46	C13205	A43	C26401	D33	CR14110	B23	Q14901	D3	R11920	A52	R13183	E29	R14401	D10	R26459	B32		
C11603	C46	C13501	E32	C26402	C33	CR14111	D21	Q15101	A14	R11921	B52	R13184	E30	R14402	E7	R26460	B32		
C11604	C48	C13502	E32	C26404	E41	CR14113	E24	Q15102	C14	R12201	A3	R13185	E29	R14403	E10	R26461	B33		
C11605	D48	C13503	E32	C26408	A31	CR14114	E24	Q15103	B14	R12302	B2	R13188	C30	R14501	D8	R26462	D28		
C11606	C48	C13504	D31	C26409	A32	CR14115	C27	Q26401	C30	R12303	B1	R13189	B30	R14503	D5	R26463	E25		
C11607	C48	C14101	B19	C26410	D34	CR14117	C19	Q26402	C30	R12304	B4	R13190	B30	R14504	D6	R26464	E27		
C11608	B46	C14102	B20	C26411	A34	CR14201	A19	Q26403	D25	R12305	D29	R13191	B30	R14506	D6	R26465	E27		
C11609	B46	C14103	B19	C26412	D31	CR14202	A18	Q26404	E25	R12306	E24	R13192	D35	R14507	D8	R26466	E25		
C11610	C46	C14104	C19	C26413	E30	CR14203	A19	Q26405	B32	R12307	B5	R13198	A32	R14508	E20	R26467	E25		
C11611	B46	C14105	C19	C26414	B34	CR14204	A18	Q26410	A43	R12308	A5	R13201	A30	R14509	E21	R26468	E26		
C11612	D46	C14106	C20	C26415	A34	CR14205	B18	Q26411	B43	R12309	B4	R13202	A29	R14520	D5	R26469	B39		
C11613	D46	C14107	C20	C26418	E34	CR14210	A19	Q26450	B42	R12310	B4	R13203	A44	R14701	D19	R26475	E33		
C11614	C46	C14108	A20	C26419	C30	CR14301	E5	Q26451	A42	R12311	B4	R13314	D30	R14702	D20	R26477	C38		
C11615	C46	C14109	A22	C26422	D34	CR14401	D10	Q26901	B7	R12314	C2	R13315	D29	R14703	A16	R26478	C30		
C11616	C45	C14110	A24	C26425	B34	CR14501	D7	Q26903	C5	R12315	C2	R13316	D30	R14704	E3	R26484	B32		
C11617	A47	C14111	B23	C26426	C34	CR14701	E19	R11401	B46	R12316	C3	R13317	E29	R14705	E3	R26486	B31		
C11618	D46	C14112	B23	C26427	B30	CR14702	D19	R11402	B46	R12317	B4	R13318	E29	R14706	D3	R26487	B32		
C11619	A46	C14113	B21	C26428	C31	CR14704	E20	R11403	B46	R12318	B4	R13319	E29	R14851	D4	R26488	B32		
C11620	C48	C14114	B24	C26429	B31	CR14901	E3	R11404	B46	R12701	C11	R13320	E29	R14901	E3	R26489	B32		
C11621	B48	C14115	B21	C26430	B31	CR14902	E3	R11405	C4	R12702	E4	R13321	E30	R14902	E2	R26490	A42		
C11622	B48	C14116	C23	C26432	A32	CR26901	B28	R11406	C5	R12703	C11	R13322	E29	R14903	E2	R26491	B42		
C11623	D48	C14118	A28	C26433	D33	DY1	D9	R11460	B46	R12704	A9	R13501	E32	R14904	D3	R26492	B43		
C11624	A46	C14119	B24	C26435	D31	F14201	A17	R11461	B46	R12705	C10	R13503	E32	R14906	E3	R26495	B43		
C11625	D48	C14121	B24	C26437	C32	FB13201	A42	R11462	C51	R12706	C12	R13504	E33	R14909	D3	R26496	B43		
C11626	A47	C14122	A24	C26438	B32	FB14106	B22	R11463	C51	R12707	A12	R13505	D32	R14910	D2	R26497	B43		
C11627	A47	C14124	A22	C26439	B32	FB14107	A22	R11501	D48	R12708	B12	R13508	D32	R15101	A15	R26498	A43		
C11628	A48	C14125	B20	C26440	B41	FB14108	A22	R11502	D48	R12710	B2	R13510	D33	R15102	C15	R26499	A42		
C11629	B47	C14126	C19	C26441	C30	FB14109	B20	R11503	D48	R12711	B2	R13511	E31	R15103	B15	R26506	E27		
C11630	A49	C14127	C20	C26444	C29	FB14110	A24	R11504	D48	R12712	B12	R13512	D31	R15104	A15	R26901	B27		
C11631	A49	C14150	C28	C26445	B24	FB14114	B21	R11505	D49	R12713	B12	R14101	B18	R15105	C15	R26914	C5		
C11632	A46	C14151	C26	C26446	E30	FB14401	E8	R11506	D48	R12714	B11	R14102	B18	R15106	B15	R26915	C5		
C11633	A46	C14152	B24	C26447	B28	FB14501	D5	R11507	D49	R12715	C13	R14103	B19	R15107	A14	R26916	B6		
C11701	E45	C14153	B24	C26448	D28	FB26401	D26	R11508	D50	R12716	C13	R14104	B19	R15108	C14	R26917	B7		
C11702	D46	C14154	C27	C26449	D28	FB26402	E24	R11509	D50	R12717	C13	R14105	C20	R15109	B14	R26921	C5		
C11703	D46	C14155	B28	C26450	E28	FB26403	B41	R11510	D50	R12718	C13	R14106	B19	R15118	D16	R26922	C5		
C11704	E46	C14158	B24	C26451	E28	FB26404	A43	R11511	D46	R12719	A13	R14107	B19	R17130	C1	R26923	B5		
C11705	E46	C14159	B23	C26452	E27	IR13201	A29	R11512	E46	R12720	A13	R14108	B20	R17402	B35	R26924	B5		
C11906	A50	C14160	B27	C26453	E27	J11401	C4	R11513	D23	R12721	A13	R14109	B19	R17403	C35	R26925	C5		
C11907	B50	C14201	A17	C26454	E27	J11401	B45	R11514	C23	R12722	A13	R14110	B19	R17409	C35	R5050	D12		
C11908	C51	C14203	A19	C26455	E28	J11401	B45	R11601	A46	R12723	B13	R14111	C19	R17411	C35	RN14501	D5		
C11909	B51	C14203	A19	C26456	E28	J13201	A44	R11602	D47	R12724	B13	R14112	C19	R26401	C33	RT14201	A18		
C11910	A50	C14204	A19	C26457	E28	K14201	A18	R11603	C47	R12725	B13	R14113	C20	R26402	C43	SF12301	B1		
C11912	B50	C14204	B19	C26458	E27	K14201	B18	R11604	C47	R12726	C11	R14114	C20	R26403	C42	SP1	A52		
C11913	A52	C14205	A20	C26459	E27	L12301	B4	R11605	B46	R12727	B13	R14115	D20	R26404	C42	SP2	B52		
C11914	B52	C14207	B17	C26460	E26	L12302	B3	R11606	D46	R12731	D3	R14116	D20	R26405	C41	SW13201	B29		
C12301	C1	C14208	A17	C26461	E28	L12303	B4	R11607	D46	R12801	C9	R14117	A20	R26406	E41	SW13202	B29		
C12302	B1	C14209	A18	C26466	D28	L12305	C27	R11608	D46	R12802	C9	R14118	A24	R26410	A42	SW13203	B29		
C12303	D29	C14210	A18	C26467	E26	L12705	C27	R11609	D46	R12803	C10	R14119	A23	R26411	A31	SW13204	B29		
C12304	A4	C14211	B18	C26468	E28	L14101	B28	R11611	A48	R12804	C9	R14120	C23	R26412	A31	SW13205	B29		
C12305	A5	C14212	C17	C26469	D27	L14102	B22	R11612	A48	R12805	B8	R14121	A32	R26413	D34	SW13206	B29		
C12306	C2	C14213	C17	C26470	A43	L14103	A24	R11613	B48	R12806	C9	R14122	A25	R26414	A34	T14101	A21		
C12307	C3	C14302	E5	C26471	E27	L14105	A23	R11614	A49	R12807	C9	R14123	A25	R26415	D31	T14201	A17		
C12308	C3	C14303	E5	C26472	D33	L14200	A18	R11615	C46	R12808	C9	R14124	B22	R26416	E31	T14301	E7		
C12310	B4	C14304	E6	C26473	B33	L14401	E7	R11616	C46	R13101	A10	R14126	D20	R26417	B34	T14401	D11		
C12312	C28	C14305	E6	C26474	D31	L14402	E9	R11617	B46	R13102	A10	R14127	D21	R26418	A34	T14401	E18		
C12313	C3	C14306	E6	C26477	E27	L15101	D20	R11618	A46	R13103	A10	R14128	D21	R26419	B42	U11501	D45		
C12314	C28	C14309	E5	C26487	D27	L26401	E27	R11619	C45	R13108	A9	R14129	C20	R26420	B42	U11501	D49		
C12701	A9	C14310	E5	C26490	D28	L26901	B27	R11620	C45	R13109	D29	R14130	C23	R26421	C31	U11501	D50		
C12702	C11	C14320	D2	C26499	D26	PW14101	A17	R11621	B48	R13110	D29	R14132	D21	R26422	E34	U11501	E45		
C12703	C11	C14321	D2	C26901	B27	Q11501	D23	R11622	B48	R13111	D30	R14135	D20	R26423	C30	U11601	A47		
C12704	C10	C14322	E4	C26902	B27	Q11603	C46	R11623	B49	R13112	D30	R14151	C26	R26427	D34	U11602	A48		
C12706	D4	C14401	E7	C26910	B27	Q11901	C49	R11624	B49	R13113	C30	R14153	B23	R26430	B34	U11602	B49		
C12707	C28	C14402	E9	C26915	B5	Q12301	B4	R11625	A49	R13118	B30	R14155	B27	R26431	C34	U11900	A51		
C12708	C28	C14403	D9	C26916	B5	Q12701	C13	R11626	A49	R13119	B30	R14157	B27	R26432	B31	U11901	B51		
C12709	B11	C14404	D9	CF12201	A3	Q12702	A13	R11627	C46	R13121	B27	R14158	B27	R26433	C31	U12101	A4		
C12710	B11	C14405	D10	CF12301	B4	Q12703	B13	R11628	A46	R13122	A30	R14159	B27	R26434	B31	U12101	B2		
C12711	B11	C14406	E8	CR11401	C5	Q12704	B13	R11629	A46	R13123	B23	R14201	A17	R26435	B31	U12101	B9		
C12712	A28	C14502	D6	CR11501	D49	Q13101	A10	R11630	A46	R13124	C29	R14202	A18	R26437	A31	U12101	D2		
C12713	C11	C14504	D8	CR11502	D49	Q13103	D30	R11631	A46	R13125	C29	R14204	A20	R26438	D33	U13102	A36		
C12714	C13	C14505	D7	CR11503	D51	Q13104	B35	R11701	D45	R13126	B30	R14205	A17	R26439	D33	U14101	C19		
C12715	B13	C14506	E21	CR11504	D23	Q13105	B35	R11702	E45	R13128	B35	R14206	B17	R26441	D31	U14102	D19		
C12716	B13	C14507	E21	CR11505	D24	Q13301	D29	R11703	D45	R13130	C35	R14303	D1	R26443	C32	U14103	C23		
C12717	C10	C14521	D5	CR11601	B49	Q13302	D30	R11704	D46	R13131	B35	R14304	E5	R26444	B32	U14104	A26		

MISCELLANEOUS ADJUSTMENTS

NOTE: All procedures require an antenna connected and power applied to the set.

HIGH VOLTAGE CHECK

Tune in a picture. Set brightness, contrast, and color to MINIMUM. Connect a high voltage probe to the CRT anode. High voltage should measure 28kV to 30kV.

COLOR TEMPERATURE

NOTE: See Service Adjustment Parameters to change drive and bias values.

Press menu button for collapsed raster service line. Disconnect the antenna. Preset the red, green, and blue drive values to 32. Adjust screen control for a service line that is just visible. Adjust red, green, and blue drives to obtain a white raster. Check the low light to high light gray scale tracking. Repeat the procedure, if necessary, to obtain the best performance.

SERVICE MENU

The following adjustment procedures are accessed thru a service menu. To access the service menu, turn the receiver on, press the menu button and hold it down while pressing the power button. While holding down the menu button, release the power button and press the volume + button. The screen will display a one line menu, on the left the parameter P0, and on the right the value of that parameter V0. Release buttons. Adjustments are made by selecting the proper parameter and changing the value of that parameter. To change the parameter number use channel up and down buttons. To adjust the current value of that parameter use volume + and - buttons. To access and change any of the adjustments, the proper parameter pass number must be entered. This information is listed at the beginning of the alignment. When these parameters are modified, the T-Chip and the corresponding EEPROM are updated. All service adjustments are bus controlled, except focus and screen.

NOTE: In order to adjust the RF AGC, audio or video levels, tuner, PIP, or stereo circuits, the ChipperCheck hardware and software must be used. This can be purchased from Thomson Electronics. Before making any changes to any of the values, record the On Set values.

SERVICE ADJUSTMENT PARAMETERS

Parameter No.	Parameter Name	On Set Value	Value Range	Comment
0	Pass number for service adjustment parameters.	Must set to 76.	-	May not advance until value is set to 76.
1	Error Code 1	0	0 - 255	Displays the first error detected. Set to 0 before exiting. See Error Codes Chart.
2	Error Code 2	0	0 - 255	Displays the second error detected. Set to 0 before exiting. See Error Codes Chart.
3	Error Code 3	0	0 - 255	Displays the last error detected. Set to 0 before exiting. See Error Codes Chart.
4	Horizontal Phase	10	0 - 15	Tune in a crosshatch pattern, adjust to center the pattern on the screen.
5	EW DC (Width)	16	0 - 31	Tune in a crosshatch pattern, adjust for slight horizontal overscan.
6	EW Amplitude	8	0 - 15	Set value to 8.
7	EW Tilt	8	0 - 15	Set value to 8.
8	Top Corner Pin Correction	2	0 - 7	Set value to 2.
9	Bottom Corner Pin Correction	2	0 - 7	Set value to 2.
10	Vertical DC	33	0 - 63	Tune in a crosshatch pattern, adjust to center vertically.
11	Vertical Size	84	0 - 127	Tune in a crosshatch pattern, adjust for slight vertical overscan.
12	Vertical Countdown Mode	0	0 - 3	Set value to 0. (0 = Standard, 1 = Non-Standard, 2 = 50Hz, 3 = 48Hz)
13	Red Bias	30	0 - 127	Press menu button on the TV set for setup line.
14	Green Bias	15	0 - 127	Press menu button on the TV set for setup line.
15	Blue Bias	34	0 - 127	Press menu button on the TV set for setup line.
16	Red Drive	41	0 - 63	-
17	Green Drive	33	0 - 63	-
18	Blue Drive	32	0 - 63	-
19	Gemstar Horizontal OSD Position	166	0 - 255	Set value to 166.
20	Gemstar Vertical OSD Position	68	0 - 255	Set value to 68.
21	Gemstar PIP Horizontal Position	40	0 - 255	Set value to 40.
22	Gemstar PIP Vertical Position	43	0 - 255	Set value to 43.
23	Gemstar PIP Window Vertical Size	3	0 - 13	Set value to 3.

ERROR CODES CHART

Error Code DEC	Error Code HEX	Error Location	Condition Indicated
0	00	No error code	-
1	01	16.0V fault	16.0V STBY source is failing.
3	03	12.0V run fault	12.0V source is failing.
4	04	T4 Chip	Run supply failed.
8	08	T4 Chip	X-ray protection caused high voltage shutdown.
9	09	T4 Chip (POR)	Power supply problem at (POR) power on reset.
10	0A	F2 PIP module error (POR)	Power supply problem at (POR) power on reset/PIP.
11	0B	Stereo decoder (POR)	Power supply problem at reset/Stereo decoder.
16	10	Run IIC Bus held low	Run IIC clock or data held low.
18	12	Standby IIC Bus held low	Standby IIC clock or data held low.
23	17	Gemstar 4 Board	Guide fatal error on set using Gemstar 4 Board.
24	18	Gemstar 4 Board	Task monitor error on set using Gemstar 4 Board.
25	19	Gemstar 4 Board	Watchdog error on set using Gemstar 4 Board.
34	22	Gemstar Board	Gemstar fails to acknowledge.
44	2C	F2 PIP module error	F2PIP fails to acknowledge.
102	66	Octal DAC	Octal DAC fails to acknowledge.
128	80	Stereo decoder	Stereo decoder fails to acknowledge.
160	A0	Main or PIP tuner EEPROM	Main or PIP tuner EEPROM fails to acknowledge.
186	BA	T4 Chip	T4 Chip fails to acknowledge.
196	C4	Main tuner PLL/DAC	Main tuner PLL IC fails to acknowledge.
198	C6	Main tuner PLL/DAC	Main tuner DAC IC fails to acknowledge.

ERROR CODES

If certain failures occur, the matching error codes will be stored in the EEPROM. These error codes will be displayed in parameters 1, 2, and 3. The first failure error code will be stored at parameter 1 and the second failure error code will be stored at parameter 2. Parameter 3 will be updated to display the most recent failure occurred in the chassis. If a failure of a bus IC occurred, the normal acknowledgment checking of that bus will be disabled in the service mode and the address of that IC which failed will be stored in one of the error code parameters. After every repair is done to the chassis it is recommended to check the error code parameters, and reset them back to value 0.

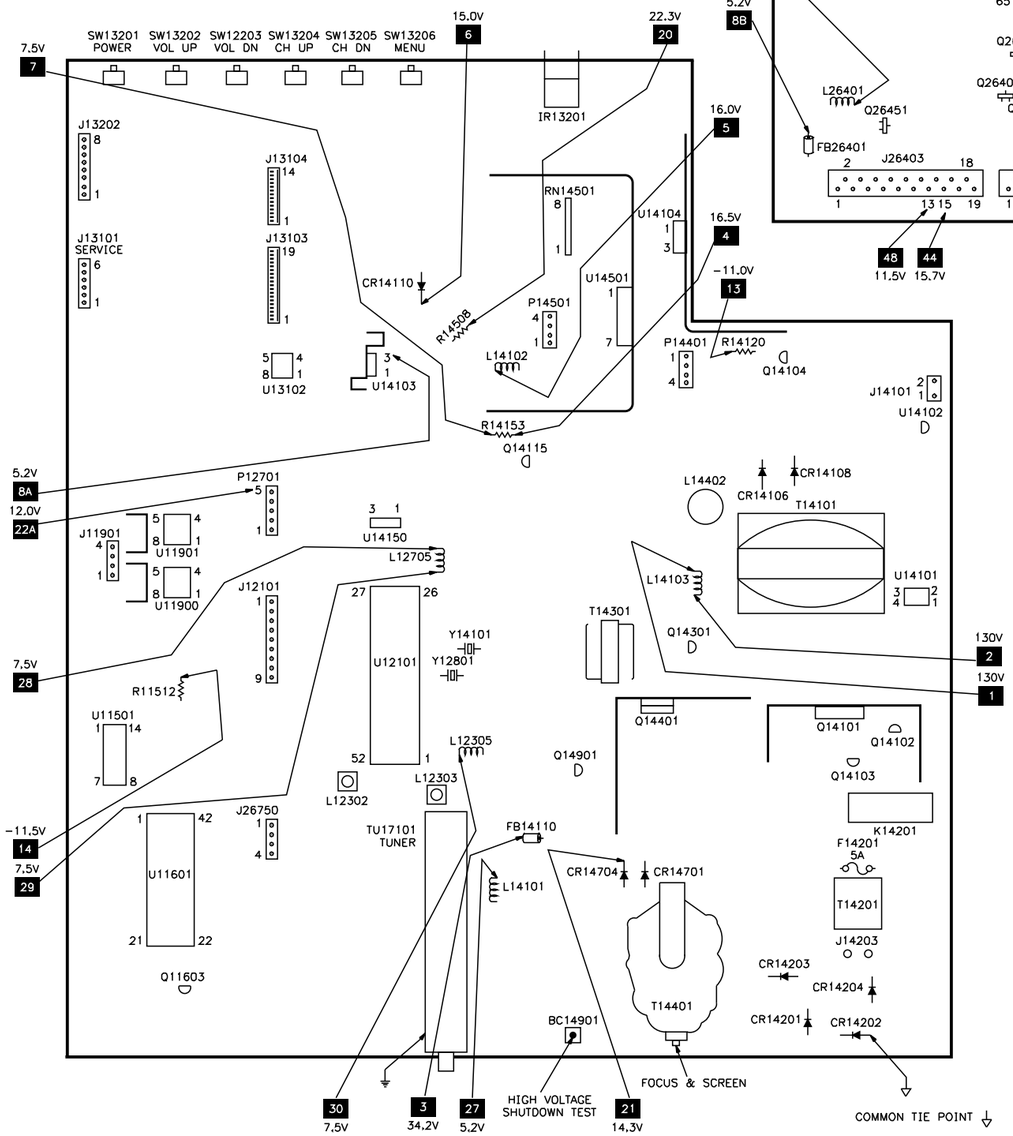
TEST EQUIPMENT

Test equipment listed by participating manufacturer illustrates typical or equivalent equipment used by Sams engineers to obtain measurements. This equipment is compatible with most types used by field service technicians.

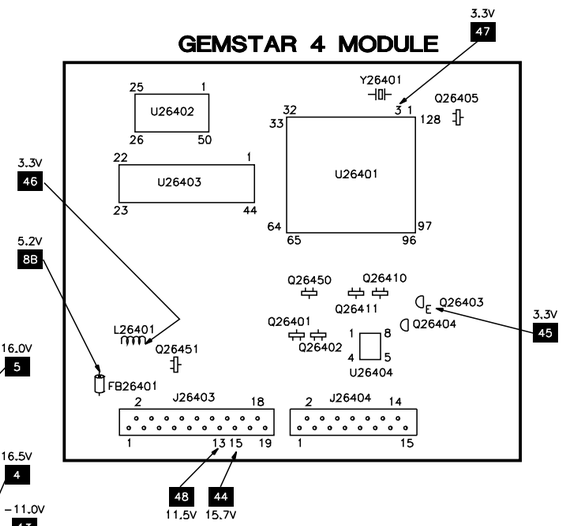
Equipment	Sencore No.	Equipment	Sencore No.
Oscilloscope	SC3100	Isolation Transformer	PR570
Generators		Capacitance Analyzer	LC102
RGB	CM2125	CRT Analyzer	CR7000
Multiburst Signal	VG91	AC Leakage Tester	PR570
Color Bar	VG91	Inductance Analyzer	LC102
TV Stereo	VG91	Flyback Yoke Tester	TVA92
Digital VOM	SC3100	Field Strength Meter	SL753
Frequency Meter	SC3100	Transistor Tester	TF46
Hi-Voltage Probe	HP200	Horizontal Analyzer	HA-2500
Accessory Probes	TP212	Video Analyzer	VG91, TVA92

PLACEMENT CHART

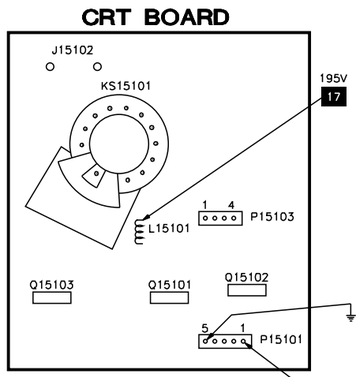
MAIN BOARD - TOP VIEW



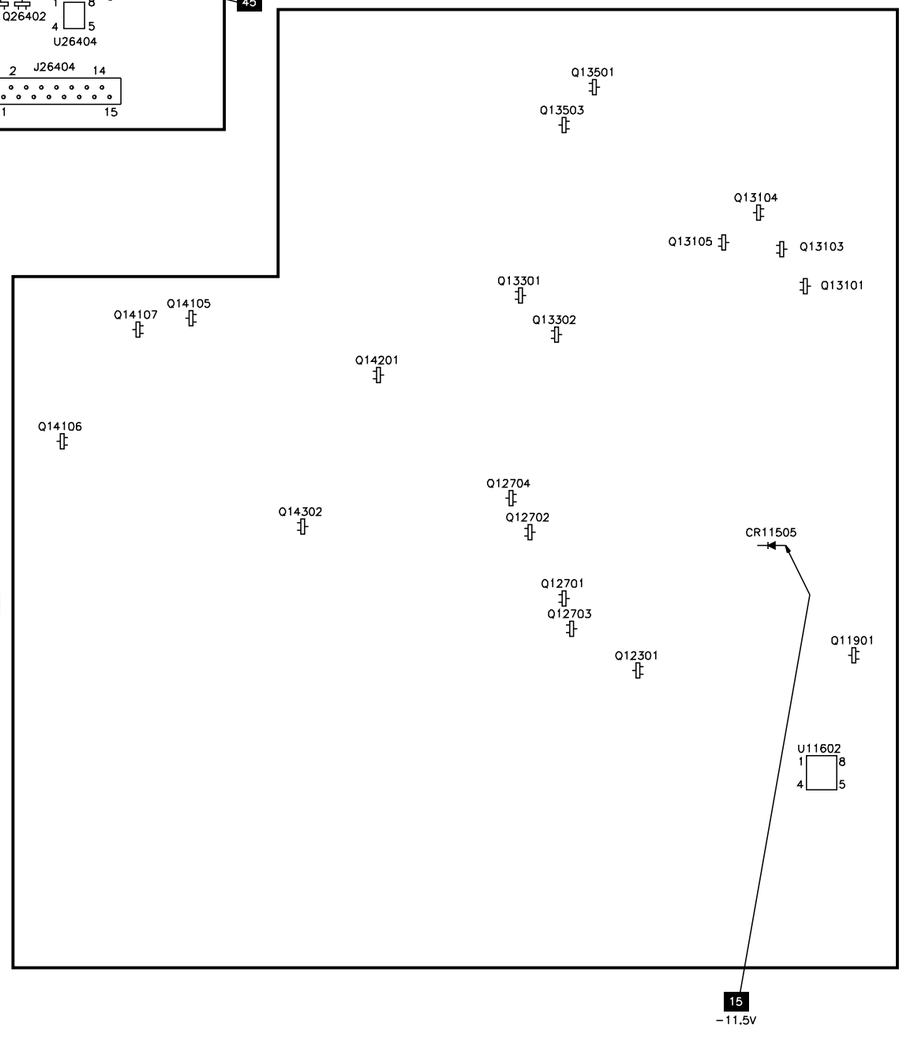
GEMSTAR 4 MODULE



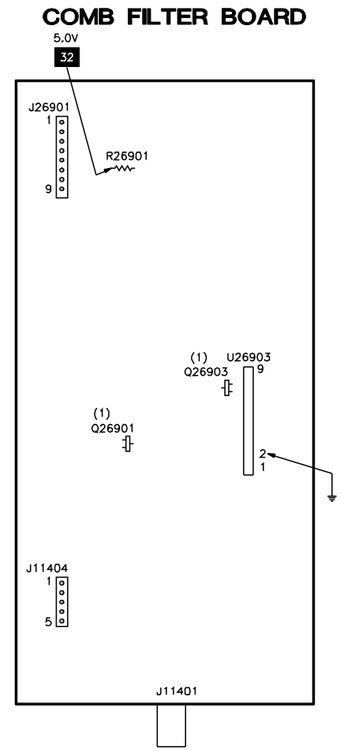
CRT BOARD



MAIN BOARD - BOTTOM VIEW



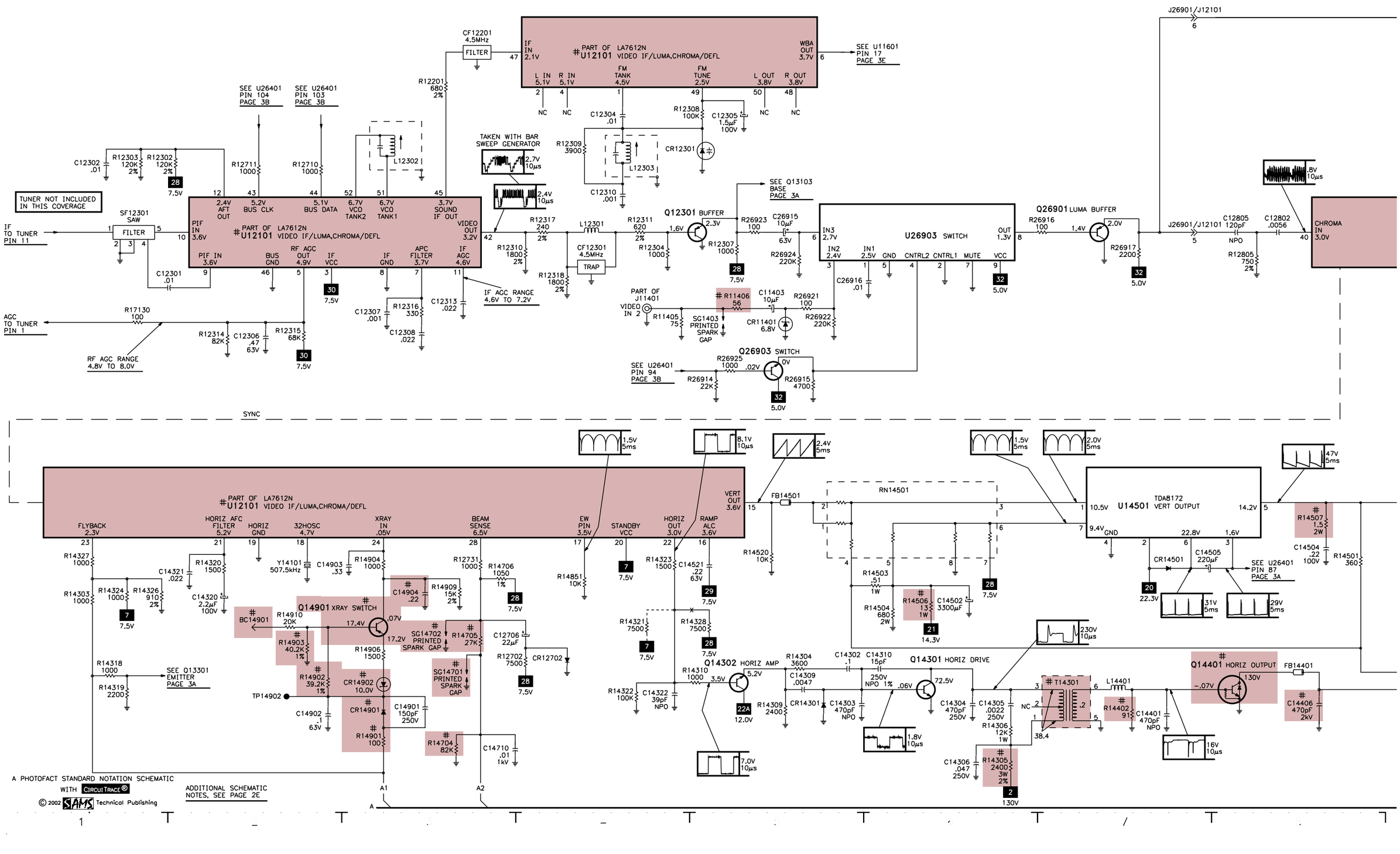
COMB FILTER BOARD



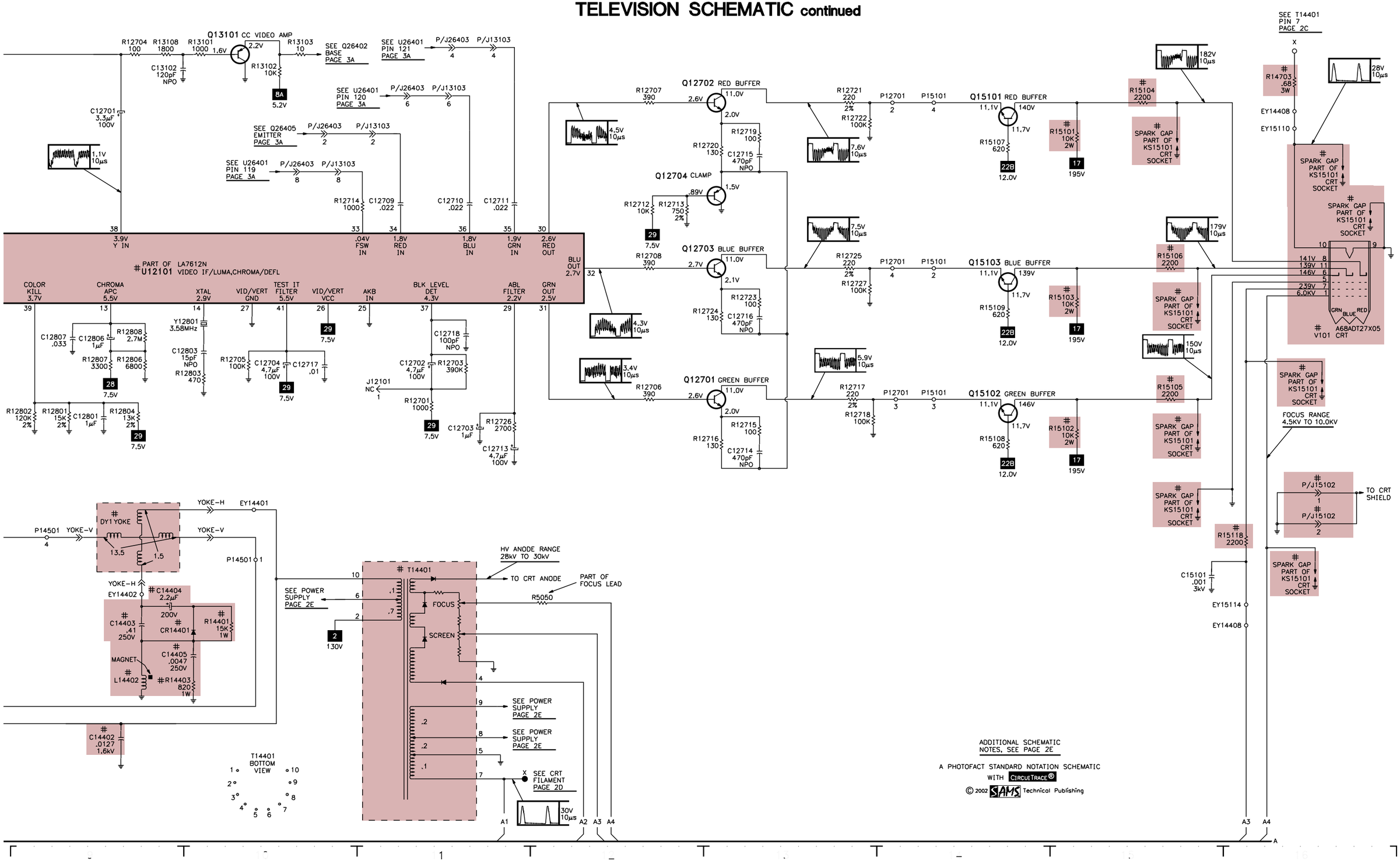
GE

MODEL 27GT630TX51 (CHASSIS CTC203AA5)

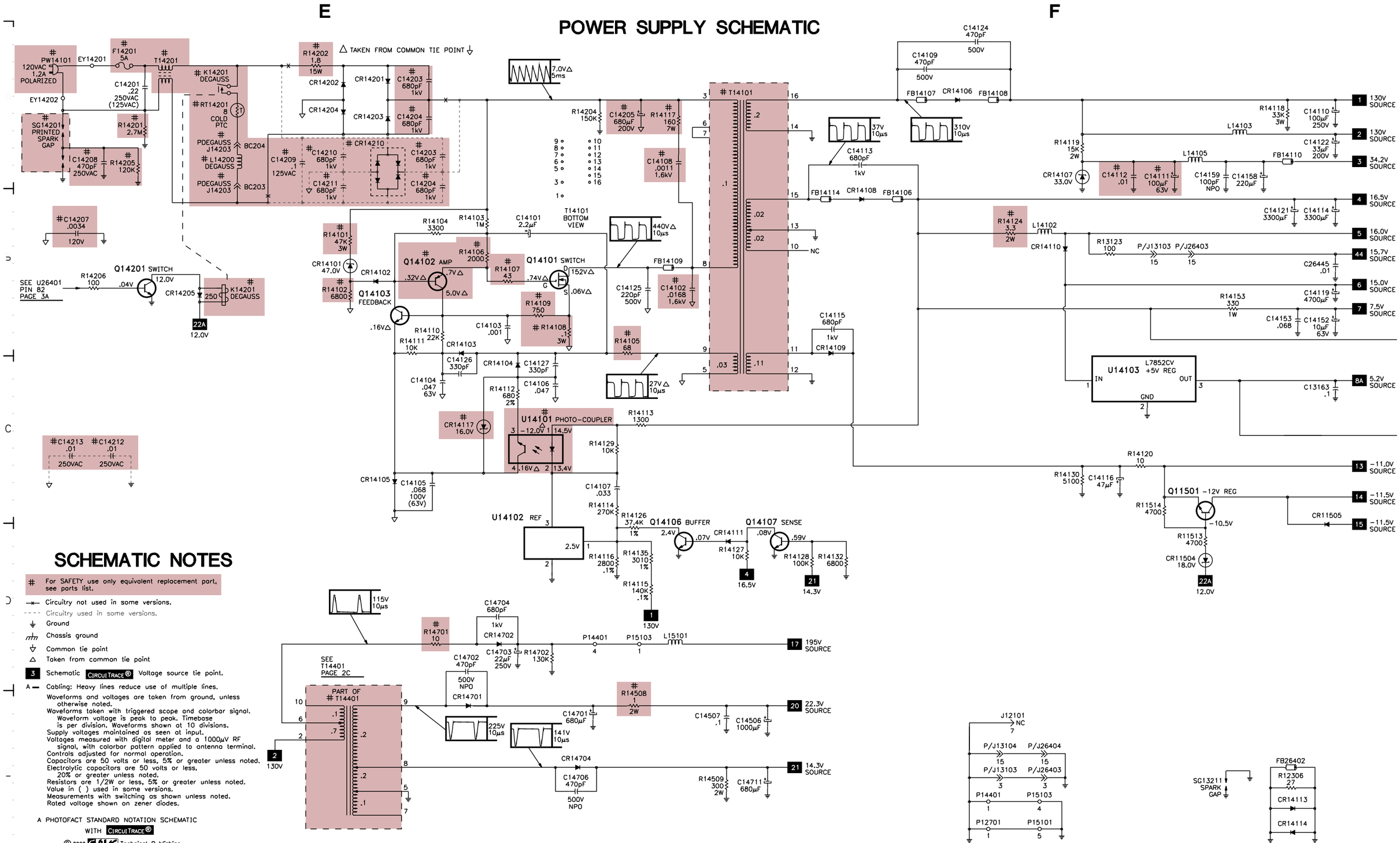
TELEVISION SCHEMATIC



TELEVISION SCHEMATIC continued



POWER SUPPLY SCHEMATIC



SCHEMATIC NOTES

For SAFETY use only equivalent replacement part, see parts list.

Circuitry not used in some versions.

Circuitry used in some versions.

Ground

Chassis ground

Common tie point

Taken from common tie point

3 Schematic CIRCUITRACE® Voltage source tie point.

A — Cabling: Heavy lines reduce use of multiple lines.

Waveforms and voltages are taken from ground, unless otherwise noted.
Waveforms taken with triggered scope and colorbar signal. Waveform voltage is peak to peak. Timebase is per division. Waveforms shown at 10 divisions.
Supply voltages maintained as seen at input.
Voltages measured with digital meter and a 1000µV RF signal, with colorbar pattern applied to antenna terminal.
Controls adjusted for normal operation.
Capacitors are 50 volts or less, 5% or greater unless noted.
Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.
Resistors are 1/2W or less, 5% or greater unless noted.
Value in ( ) used in some versions.
Measurements with switching as shown unless noted.
Rated voltage shown on zener diodes.

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE®

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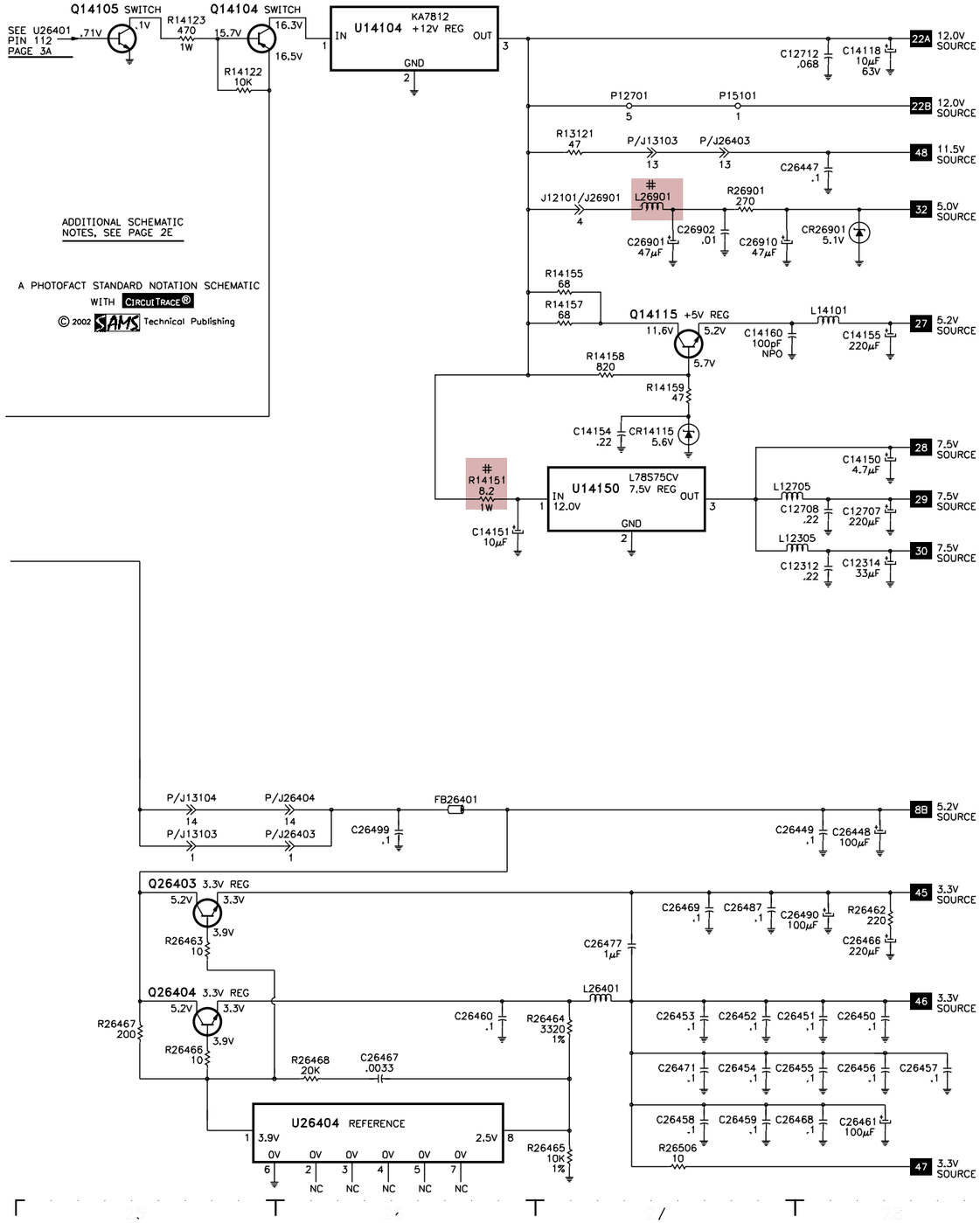
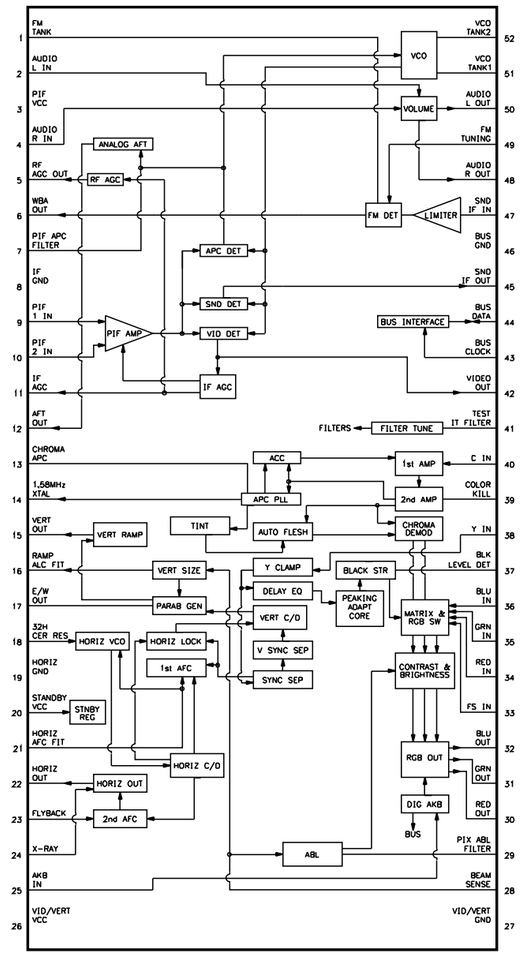
POWER SUPPLY SCHEMATIC continued

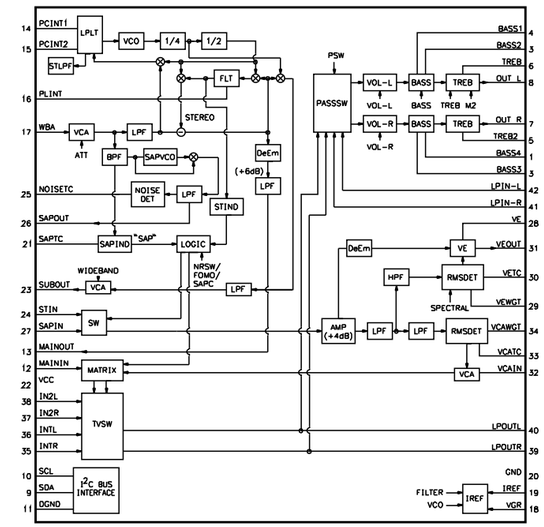


IC FUNCTIONS

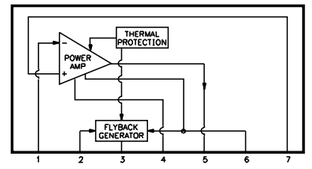
U12101
LA7612N



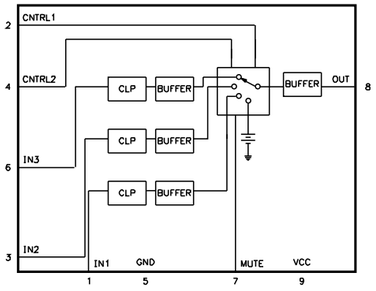
U11601
CXA2074S



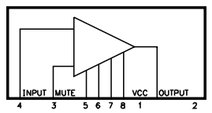
U14501
TDA8172



U26903
LA7221



U11900, U11901
TDA7267



GE

MODEL 27GT630TX51 (CHASSIS CTC203AA5)

GEMSTAR 4 SCHEMATIC

IR13201 IR RECEIVER
GND
OUT
5V
R13201 39K
R13202 100
C13201 .01
C13202 22µF
8A 5.2V
R13122 1000
P/J13103 9
P/J26403 9
R26411 1000
C26408 330pF
IRIN 5.1V
80
SERVICE COMPUTER J13101 6
SERVICE COMPUTER J13101 3
PART OF NC J26401 21
SW13201 POWER
SW13202 VOL UP
SW13203 VOL DN
SW13206 MENU
SW13205 CH DN
SW13204 CH UP
SG13205 SPARK GAP
SG13207 SPARK GAP
SG13202 SPARK GAP
SG13204 SPARK GAP
SG13208 SPARK GAP
SG13203 SPARK GAP
SG13206 SPARK GAP
SG13201 SPARK GAP
SG13209 SPARK GAP
R13191 330
R13126 100K
P/J13104 10
P/J26404 10
C26427 .001
R26432 4700
GPIO23/ AGNT 1.6V
107
R13190 330
R13119 100K
P/J13104 4
P/J26404 4
PART OF J26401 6 NC
C26430 .001
R26435 10K
GPIO26/ CPU CLK 5.1V
110
R13189 330
R13118 100K
P/J13104 6
P/J26404 6
PART OF J26401 35 NC
C26429 .001
R26434 10K
GPIO25/ NOPC 5.1V
109
R13188 330
R13113 100K
P/J13104 8
P/J26404 8
PART OF J26401 29 NC
C26428 .001
R26433 10K
GPIO24/ SIZE1 5.1V
108
J26750 NC
R13125 1000
R13124 220K
P/J13104 9
P/J26404 9
C26419 .001
GPIO15 .01V
95
R26423 1000
Q26402 VIDEO AMP
SEE Q13101 EMITTER PAGE 2C
P/J13104 2
P/J26404 2
C26444 47pF NPO
R26452 1000
2.5V
1.8V
10.4V
R26449 470 (120K)
C26441 1µF
R26478 100
CC VIDEO 1.5V
124
R26451 390
Q26401 CLAMP
R26448 560
10.4V
3.3V
11.1V
R26450 560
R26447 100
4B 11.5V
4B 11.5V
1.2V 10µs
Q13103 BUFFER
SEE Q12301 EMITTER PAGE 2B
R12305 1800
R13110 220
C13114 .01
4.9V
.47V
R13112 10K
R13111 27K 2%
P/J13103 14
P/J26403 14
R26441 10K
C26435 100pF NPO
MAIN TUNING SYNC .75V
115
C12303 120pF NPO
R13109 2.7M
8A 5.2V
Q13302 SYNC BUFFER
Q13301 SYNC AMP
SEE U12101 PIN 23 PAGE 2A
R13315 10K
-.9V
4.0V
.80V
.71V
R13316 1000
P/J3103 7
P/J26403 7
R26415 1000
C26412 100pF NPO
HORIZ SYNC .6V
86
4.5V 10µs
R13314 10K
R13319 1000
R13318 1500
R13317 47K
6.5V 5ms
SEE U14501 PIN 3 PAGE 2B
R13320 10K
R13322 330
NC
P/J13103 5
P/J26403 5
R13321 2400
C26413 .001
R26416 1000
VERT SYNC .4V
87
SEE U11501 PIN 7 PAGE 4B
R13183 5100
R13185 10K
R13184 10K
P/J13103 11
P/J26403 11
C26446 .001
R26455 10K
SND LOGIC A/D 2.0V
127
DEGAUSS .01V
82
R26412 820
C26409 .001
P/J26404 1
P/J13104 1
SEE Q14201 BASE PAGE 2E
RUN/STBY 3.2V
112
R26437 1000
C26432 .001
P/J26403 18
P/J3103 18
R13165 4700
R13198 33K
R14121 1000
SEE Q14105 BASE PAGE 2C
R OSD .05V
122
Q26405 RED AMP
R26488 1200
.04V
.7V
R26489 1600
R26486 5600
R26446 470
(120K)
C26473 47pF NPO
R26484 1500
8B 5.2V
R26461 1100
SEE U12101 PIN 34 PAGE 2C
B OSD .03V
120
R26444 470
R26487 6200
C26438 47pF NPO
R26459 1100
SEE U12101 PIN 36 PAGE 2C
G OSD .04V
121
R26445 470
C26439 47pF NPO
R26460 1100
SEE U12101 PIN 35 PAGE 2C
FSW 0V
119
R26443 470
C26437 47pF NPO
R26458 1800
SEE U12101 PIN 33 PAGE 2C
PART OF U26401 SYSTEM CONTROL
COMB SVID SW .02V
93
R26421 1000
C26474 .001
P/J26403 17
P/J13103 17
J12101/J12345 3
R13143 220K
8A 5.2V
C26402 30pF NPO
Y26401 8MHz
R26401 1M
C26401 27pF NPO
OSC IN 1.3V
5
OSC OUT 1.3V
4
Q13503 SWITCH
R13508 10K
0V
5.3V
R13505 68K
C13141 .01
R13510 1000
P/J13104 7
P/J26404 7
R26438 10K
113
RESETB
DO NOT MEASURE DC VOLTAGE
R13512 1000
C13504 .1
8A 5.2V
Q13501 SWITCH
0V
5.7V
5.3V
C13502 .001
CR13501
R13503 64.9K 1%
R13504 100K 1%
6 15.0V
C26433 .01
C26472 .1
R26439 110K
46 3.3V
PART OF J26401 NC 23
R26475 1000
J26406 NC 5
R13511 47K
C13503 .001
R13501 1000
8A 5.2V
C13501 .1
I2CDAT0 0V
76
NC
NC
72
NWI .02V
TUNER NOT INCLUDED IN THIS COVERAGE
SERVICE COMPUTER J13120 1
SERVICE COMPUTER J13120 2
R13142 10K
R13139 10K
8A 5.2V
I2CDAT1/ GPIO8 5.2V
88
R26414 1000
C26411 100pF NPO
P/J26403 12
P/J13103 12
R13135 1000
DAT 5.2V
5
24C08 U13102 EEPROM
A0 1
A1 2
A2 3
TEST 7
VSS 4
I2CCLK1/ GPIO9 5.2V
89
R26418 1000
C26415 100pF NPO
P/J26403 10
P/J13103 10
R13134 1000
CLK 5.2V
6
PIX CLK GPIO10 2.9V
90
R26417 10K
C26414 .001
P/J26403 16
P/J13103 16
Q13105 SWITCH
R13181 100K 4.4V
4.6V
R13182 100K
8A 5.2V
R13128 100K
Q13104 SWITCH
R13180 10K 4.6V
R13136 100
5.2V
8
VCC 5.2V
R13176 10K
C13119 .1
+5V TO TUNER PIN 3
+5V TO TUNER PIN 6
27 5.2V
I2CDAT2/ GPIO21 5.1V
103
R26430 1000
C26425 100pF NPO
P/J26404 12
P/J13104 12
R13131 100
R13166 10K
R17402 100
SEE U11601 PIN 9 PAGE 4A
C17416 43pF NPO
SERVICE COMPUTER J13101 NC 4
SEE U12101 PIN 44 PAGE 2A
R17409 47
DATA TO TUNER PIN 5
I2CCLK2/ GPIO22 5.1V
104
R26431 1000
C26426 100pF NPO
P/J26404 13
P/J13104 13
R13130 100
R13169 10K
C17417 43pF NPO
SERVICE COMPUTER J13101 NC 5
SEE U12101 PIN 43 PAGE 2A
R17403 100
SEE U11601 PIN 10 PAGE 4A
R17411 47
CLOCK TO TUNER PIN 4
+32V TO TUNER PIN 9
3 34.2V
+5V TO TUNER PIN 7
27 5.2V
SPEAKER MUTE .04V
83
R26413 1000
C26410 .001
P/J26404 5
P/J13104 5
SEE Q11901 BASE PAGE 4B
NC NC TO TUNER PIN 2
PWM01 0V
100
R26427 1200
C26422 200pF NPO
P/J26404 3
P/J13104 3
R13192 1000
8A 5.2V
COMP VID SW .01V
94
R26422 1000
C26418 .001
P/J26403 19
P/J13103 19
J12101/J26901 9
R13144 220K
SEE Q26903 BASE PAGE 2B
ADDITIONAL SCHEMATIC NOTES, SEE PAGE 2E
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GEMSTAR 4 SCHEMATIC continued

U26403 ROM

U26402 DRAM

U26401 SYSTEM CONTROL

Q26451 AMP

Q26410 BUFFER

Q26450 DRIVER

Q26411 AMP

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 2E

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE®

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A

AUDIO SCHEMATIC

B

SEE U12101 PIN 6 PAGE 2B

R11601 2200
C11601 1µF
R11618 3300
C11624 4.7µF
C11619 4.7µF
J26750 NC 1
J26750 NC 4
R11629 470
C11632 1µF
R11628 100K
J26750 NC 3
R11631 470
C11633 1µF
R11630 100K
R11605 100K
C11608 .012
C11609 .0056
R11617 1M

CXA2074S U11601 STEREO DECODER

17 WBA 4.1V
27 SAPIN 4.1V
26 SAPOUT 4.0V
37 IN2R 4.1V
38 IN2L 4.1V
14 PCINT1 4.1V
15 PCINT2 4.0V
36 IN1L 4.1V
35 IN1R 4.1V
18 VGR 1.3V
16 PLINT 5.2V
20 GND
11 DGND
22 VCC 9.5V
25 NOISETC 2.9V
19 REF 1.3V
21 SAPTC 4.6V
9 SDA 4.9V
10 SCL 4.9V
41 LPIN-R 4.1V
13 MAINOUT 4.1V
12 MAININ 4.1V
42 LPIN-L 4.1V

PART OF J11401 AUX LEFT/MONO AUDIO INPUT
PART OF J11401 AUX RIGHT AUDIO INPUT
SG11402 SPARK GAP
SG11401 SPARK GAP
R11403 2200
R11401 2200
J11404/J11450 2 2
J11404/J11450 1 1
R11404 100K
R11402 100K
R11461 470
R11460 470
C11451 1µF 100V
C11450 1µF 100V
C11611 10µF
C11610 1µF

Q11603 SWITCH
R11620 10 10.1V
9.5V
16.0V
C11614 10µF 63V
C11615 .1
R11619 220
C11616 68µF
CR11602 10.0V
CR11603
22A 12.0V
R11627 10
4 16.5V
R11615 100K
C11602 4.7µF
R11616 61.9K 1%
C11603 4.7µF

SEE U26401 PIN 103 PAGE 3B
SEE U26401 PIN 104 PAGE 3B
R11608 100
R11609 1000
C11612 22pF NPO
R11606 100
R11607 1000
C11613 22pF NPO

OUT L 4.1V 8
SUBOUT 4.1V 23
STIN 4.1V 24
TREB2 4.1V 5
BASS1 4.1V 4
BASS2 4.1V 3
TREB2 4.1V 7
BASS4 4.1V 1
BASS3 4.1V 2
VE 4.0V 28
VEOUT 4.1V 31
VCAIN 4.1V 32
VEWGT 4.1V 29
VETC 1.7V 30
WCAWGT 4.0V 34
WCATC 1.7V 33
TREB1 4.1V 6
LOUTR 4.1V 39
LPOUTL 4.1V 40

C11627 .33
R11611 13K
C11617 4.7µF
C11626 .0068
C11621 .047
C11629 .33
R11621 13K
C11622 .047
R11603 3300
C11606 .0027
C11620 4.7µF
R11604 3300
C11607 .047
C11604 3.3µF
R11602 3900
C11605 1µF
C11623 10µF
C11625 .0068

AMP PART OF U11602
R11612 1000
3 0V
2 0V 7.9V
1 0V
4 -7.5V
8
C11631 .1
C11628 330µF
R11625 1000
CR11601
R11626 1000
C11630 330µF
22A 12.0V
15 -11.5V
R11614 56K
R11613 10K
AMP PART OF U11602
R11622 1000
5 0V
6 0V
7 0V
R11624 56K
R11623 10K

SEE U26401 PIN 83 PAGE 3B
Q11901 MUTE SW
R11915 1000
R11919 1000
4.9V
8.5V
R11917 47K
R11918 20K
4 16.5V

LEFT CHANNEL
R11910 5100
C11906 .022
C11910 .1
R11911 220
INPUT .85V OUTPUT 8.3V
TDA7267 U11900 AUDIO OUTPUT
MUTE 8.5V
15.8V
C11913 1000µF
J/P11901 1
SP1 8Z
R11920 2200
J/P11901 2

RIGHT CHANNEL
R11912 5100
C11907 .022
C11912 .1
R11913 220
INPUT .85V OUTPUT 8.3V
TDA7267 U11901 AUDIO OUTPUT
MUTE 8.5V
15.8V
C11914 1000µF
J/P11901 4
SP2 8Z
R11921 2200
J/P11901 3
C11909 100µF
R11909 16 3W
4 16.5V
C11908 1000µF

C11455 1µF
R11462 100
J11450 NC 5
C11453 .0047
C11456 1µF
R11463 100
J11450 NC 4
C11454 .0047

MC3403N AMP PART OF U11501
R11701 10K
R11708 8200
10 1.8V
9 1.8V
VCC 11.6V
8 1.8V
R11703 10K
R11704 20K
C11702 .0047
4
R11511 100
C11506 10µF
22A 12.0V
C11703 1µF
R11705 1000
C11701 .047
MC3403N AMP PART OF U11501
R11706 20K
C11704 .0047
C11705 1µF
R11707 1000
R11702 10K
R11709 8200
13 1.8V
12 1.8V
GND -11.2V
14
11
R11512 100
C11507 10µF
14 -11.5V

C11501 .1
C11502 .1
R11501 20K
R11504 20K
R11502 20K
R11503 6800
R11506 20K
MC3403N AMP PART OF U11501
2 0V
3 0V
-.44V
1
CR11501
CR11502
R11507 10K
R11505 20K
R11509 82K
MC3403N AMP PART OF U11501
6 0V
5 0V
3.3V
7
R11508 4700
R11510 1000
CR11503 5.6V
C11504 4.7µF
C11503 .001

SEE U26401 PIN 127 PAGE 3A

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 2E

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE®

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PARTS LIST

	Item No.	Type No.	Mfr. Part No.	NTE Part No.
	CR11401	-	232710	-
	CR11501, 02	-	232709	-
	CR11503	-	215488	NTE136A
	CR11504	-	226463	-
	CR11505	-	232709	-
	CR11601	-	232709	-
#	**CR11602**	-	159429	NTE5019T1
	CR11603	-	232709	-
	CR12301	-	227051	-
	CR12702	-	198589	NTE519
	CR13501	-	164874	NTE177
	CR14101	-	232221	-
	CR14102	-	198589	NTE519
	CR14103, 04	-	139706	NTE177
	CR14105	-	198589	NTE519
	CR14106	-	243636	-
	CR14107	-	217306	-
	CR14108	-	243636	-
	CR14109	-	176296	NTE552
	CR14110	-	155276	NTE116
	CR14111	-	198589	NTE519
	CR14113, 14	-	232709	-
	CR14115	-	215488	NTE136A
#	**CR14117**	-	244224	-
	CR14201 Thru			
	CR14204	-	147015	NTE125
	CR14205	-	198589	NTE519
	CR14210	-	214649	NTE5331
	CR14301	-	176296	NTE552
#	**CR14401**	-	140971	NTE558
	CR14501	-	155276	NTE116
	CR14701	-	241304	-
	CR14702	-	176296	NTE552
	CR14704	-	207878	NTE519
#	**CR14901**	-	157301	NTE177
#	**CR14902**	-	159429	NTE5019T1
	CR26901	-	198602	-
	Q11501	-	215495	-
	Q11603	-	177788	NTE31
	Q11901	-	215495	-
	Q12301	-	215496	-
	Q12701, 02, 03	-	215495	-
	Q12704	-	215496	-
	Q13101, 03, 04	-	215496	-
	Q13105	-	215495	-
	Q13301	-	215496	-
	Q13302	-	215495	-
	Q13501	-	215496	-
	Q13503	-	215495	-
	Q14101	-	244223	-
#	**Q14102**	-	147665	NTE159
	Q14103	-	232218	-
	Q14104	-	243955	-
	Q14105, 06, 07	-	215495	-
	Q14115	-	177788	NTE31
	Q14201	-	219412	-
	Q14301	-	146851	NTE287
	Q14302	-	215495	-
#	**Q14401**	-	242224	-
#	**Q14901**	-	147665	NTE159
	Q15101, 02, 03	-	215497	NTE2501
	Q26401	-	215496	-
	Q26402	-	215495	-
	Q26403, 04	-	177788	NTE31
	Q26405	-	215496	-
	Q26410	-	215496	-
	Q26411, 50, 51	-	215495	-
	Q26901	-	215496	-
	Q26903	-	215495	-
	U11501	MC3403N	241785	NTE987
	U11601	CXA2074S	237930	-
	U11602	-	237474	-
	U11900, 01	TDA7267	244225	-
#	**U12101**	-	252842	-
	U13102	24C08	251160	-
#	**U14101**	-	223653	-
	U14102	-	231525	-
	U14103	L7852CV	241752	-
	U14104	KA7812	162394	NTE966
	U14150	L78S75CV	231526	-
	U14501	TDA8172	232109	NTE1788
	U26401	-	249043	-
	U26402	-	243436	-
	U26403	-	254910	-
	U26404	-	237664	-
	U26903	LA7221	227354	-

	Item No.	Function/Rating	Mfr. Part No.	Notes
	C11612, 13	22pF 5% 50V NPO	194903	-
	C12303	120pF 5% 50V NPO	194902	-
	C12714, 15, 16	470pF 5% 50V NPO	214732	-
	C12718	100pF 5% 50V NPO	193340	-
	C12803	15pF 5% 50V NPO	200538	-
	C12805	120pF 5% 50V NPO	194902	-
	C13102	120pF 5% 50V NPO	194902	-
	C13205	220pF 2% 50V NPO	205551	-
#	**C14102**	.0168 1.6kV	237355	-
#	**C14108**	.0011 1.6kV	244208	-
#	**C14111**	100µF 20% 63V	237425	-
#	**C14112**	.01 10% 50V	240934	-
	C14113, 15	680pF 20% 1kV	190538	-
	C14159, 60	100pF 5% 50V NPO	193340	-
	C14201	.22 20% 250VAC	-	-
		.22 20% 125VAC	231451	-
#	**C14203, 04**	680pF 20% 1kV	190538	-
#	**C14205**	680µF 20% 200V	190560	-
#	**C14207**	.0034 20% 120V	223330	-
#	**C14208**	470pF 10% 250VAC	250102	-
#	**C14209**	.1 20% 120VAC	229322	-
#	**C14210, 11**	.01 20% 1kV	190538	-
#	**C14212, 13**	.01 20% 250VAC	252973	-
	C14303	470pF 5% 50V NPO	214732	-
	C14310	15pF 1% 250V NPO	223899	-
	C14322	39pF 5% 50V NPO	202905	-
	C14401	470pF 5% 50V NPO	214732	-
#	**C14402**	.0127 1.6kV	246497	-
#	**C14403**	.41 5% 250V	214752	-
#	**C14404**	2.2µF 20% 200V	247673	-
#	**C14405**	.0047 10% 250V	142765	-
#	**C14406**	470pF 5% 2kV	227068	-
	C14702	470pF 10% 50V NPO	227050	-
	C14704	680pF 20% 1kV	190538	-
	C14706	470pF 10% 500V NPO	227050	-
	C14710	.01 20% 1kV	137583	-
#	**C14904**	.22 +80% -20% 25V	217298	-
	C15101	.001 10% 3kV	120696	-
	C17416, 17	43pF 5% 50V NPO	214029	-
	C26401	27pF 5% 50V NPO	246955	-
	C26402	30pF 5% 50V NPO	243467	-
	C26411, 12, 15	100pF 10% 50V NPO	243218	-
	C26422	200pF 10% 50V NPO	247000	-
	C26425, 26, 35	100pF 10% 50V NPO	243218	-
	C26437, 38, 39, 44	47pF 5% 50V NPO	244069	-
	C26470	220pF 5% 50V NPO	249036	-
	C26473	47pF 5% 50V NPO	244069	-
	CF12201	Filter	195702	4.5MHz
	CF12301	Filter	181125	4.5MHz
#	**DY1** (1)	Yoke	-	Horiz, 1.3mH, Vert 9.7mH
#	**F14201**	Fuse	175425	5Amp, 125V, Fast Acting
	FB13201	Ferrite Bead	226467	-
	FB14106, 07, 08	Ferrite Bead	237504	-
	FB14109, 10	Ferrite Bead	226467	-
	FB14114	Ferrite Bead	237504	-
	FB14401	Ferrite Bead	161237	-
	FB14501	Ferrite Bead	215547	-
	FB26401	Ferrite Bead	239201	-
	FB26402	Ferrite Bead	226467	-
	FB26403, 04	Ferrite Bead	239201	-
	IR13201	Receiver	244227	Remote
	J11401	Jack	239389	Assembly
	J13201	Jack	214609	Gemstar IR Out
#	**K14201**	Relay	256573	Degaussing
#	**KS15101**	Socket	233120	CRT
	L12301	18µH	243894	-
	L12302	-	215502	-
	L12303	-	233056	-
	L12305	10µH	175409	-
	L12352	18µH	195711	-
	L12705	10µH	175409	-
	L14101	100µH	160186	-
	L14102	27µH	190017	-
	L14103	22µH	215504	-
	L14105	47µH	244222	-
#	**L14200**	Degaussing	218764	-
	L14401	6.8µH	191141	-
#	**L14402**	Horizontal Linearity	192844	-
	L15101	100µH	160186	-
	L26401	4.7µH	158726	-
#	**L26901**	-	244249	-
#	**PW14101**	Line Cord	241251	AC, Polarized
#	**R11511, 12**	100 5% 1/4W	198667	-
#	**R11406**	56	247610	-
#	**R11401, 03**	2200 5% 1/2W	246613	-
	R11616	61.9K 1% 1/10W	225705	-

	Item No.	Function/Rating	Mfr. Part No.	Notes
#	**R11627**	10 5% 1/4W	241259	-
#	**R11909**	16 5% 3W Nonflammable	244213	-
	R12201	680 2% 1/10W	195939	-
	R12302, 03	120K 2% 1/10W	207834	-
	R12310	1800 2% 1/10W	197903	-
	R12311	620 2% 1/10W	205339	-
	R12317	240 2% 1/10W	197624	-
	R12713	750 2% 1/10W	202914	-
	R12717, 21, 25	220 2% 1/4W	175324	-
	R12801	15K 2% 1/10W	205354	-
	R12802	120K 2% 1/10W	207834	-
	R12804	13K 2% 1/10W	205353	-
	R12805	750 2% 1/10W	202914	-
	R13111	27K 2% 1/10W	205245	-
	R13503	64.9K 1% 1/10W	247691	-
	R13504	100K 1% 1/10W	215221	-
#	**R14101**	47K 5% 3W	232213	-
#	**R14102**	6800 5% 1/2W	179248	-
#	**R14105**	68 5% 1/4W	175039	-
#	**R14106**	2000 5% 1/4W	175321	-
#	**R14107**	43 5% 1/4W	244214	-
#	**R14108**	.1 5% 3W Wirewound	244215	-
#	**R14109**	750 5% 1/4W	179317	-
	R14112	680 2% 1/10W	195939	-
	R14115	140K .1% 1/4W	249013	-
	R14116	2800 .1% 1/4W	244217	-
#	**R14117**	160 5% 7W Wirewound	227958	-
	R14118	33K 5% 3W	243805	-
#	**R14124**	3.3 5% 2W Nonflammable	223680	-
	R14126	37.4K 1% 1/10W	215215	-
	R14135	3010 1% 1/4W	248594	-
#	**R14151**	8.2 5% 1W	235378	-
#	**R14201**	2.7M 10% 1/2W	217662	-
#	**R14202**	1.8 10% 15W Wirewound	200444	-
#	**R14205**	120K 20% 1/2W	238903	-
#	**R14305**	2400 2% 3W	235380	-
	R14326	910 2% 1/10W	197627	-
#	**R14401**	15K 5% 1W	190557	-
#	**R14402**	91 5% 1/2W	227249	-
#	**R14403**	820 5% 1W	175349	-
#	**R14506**	13 5% 1W	231508	-
#	**R14507**	1.5 5% 2W	237441	-
#	**R14508**	1 5% 2W Wirewound	215577	-
#	**R14701**	10 20% 1/2W	241261	-
#	**R14703**	.68 5% 3W Wirewound	244221	-
#	**R14704**	82K 10% 1/2W	239116	-
#	**R14705**	27K 10% 1/2W	238958	-
	R14706	1050 1% 1/4W	231511	-
#	**R14901**	100 5% 1/4W Nonflammable	198667	-
#	**R14902**	39.2K 1% 1/4W	190469	-
#	**R14903**	40.2k 1% 1/4W	219026	-
	R14909	15K 2% 1/10W	205354	-
#	**R15101, 02, 03**	10K 5% 2W Nonflammable	176656	-
#	**R15104, 05, 06, 18**	2200 5% 1/2W	247669	-
	R26464	3320 1% 1/16W	249040	-
	R26465	10K 1% 1/10W	252355	-
	RN14501	Resistor Network	215499	-
#	**RT14201**	8 Cold PTC	207768	-
	SF12301	Filter	217318	SAW
	SP1, 2	Speaker	243893	60 X 90mm, 8 Ohms, 1.5W
	SW13201	Switch	215500	Power
	SW13202	Switch	215500	Volume Up
	SW13203	Switch	215500	Volume Down
	SW13204	Switch	215500	Channel Up
	SW13205	Switch	215500	Channel Down
	SW13206	Switch	215500	Menu
#	**T14101**	SMT	244228	-
#	**T14201**	-	190507	-
#	**T14301**	Horizontal Drive	252843	-
#	**T14401** (2)	Horizontal Output	244229	-
#	**TU17101**	Tuner	248782	CTF5800
#	**V101**	CRT	HA68ADT275	A68ADT27X05
	Y12801	Crystal	161235	3.58MHz
	Y14101	Resonator	227064	507.5kHz
	Y26401	Crystal	217322	8Mhz
#		Fuse Holder	176642	For F14201 (2 Used)
#		PC Board	249061	Analog Comb
#		PC Board	244468	CRT
#		PC Board	253023	GEMSTAR 4
		Transmitter	242779	Remote, CRK17TB1

 # For SAFETY use only equivalent replacement part.
(1) Bonded part of CRT.
(2) Screen and focus controls are part of T14401.

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